

December 20, 2013

Mr. Mark Nations  
The Doe Run Company  
P.O. Box 1633  
Desloge, Missouri 63601

**Re: Ambient Air Monitoring Report – Federal Site**

Dear Mr. Nations:

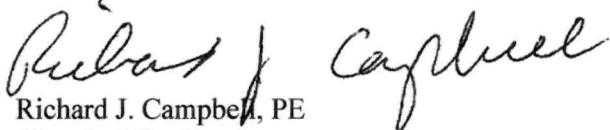
Please find attached the Third Quarter 2013 “*Ambient Air Monitoring Report*” for The Doe Run Company at the Federal Site, located near Park Hills, Missouri.

This report will include the following:

- **Glossary of Terms** – Listing of the abbreviations used for each parameter and unit.
- **National Ambient Air Quality Standards** – Lists the maximum allowable concentrations for the measured parameters.
- **Quarterly Missing Data Summary** – Listing of missing particulate run days.
- **Quarterly Data Summary** – Includes the averages of each monitored parameter, which relates to the federal standard.

Barr Engineering Company offers this report as an independent laboratory. This includes the weighing of filters, obtaining lead and cadmium analysis, compiling the data, and preparing the report. No interpretation of the data or analysis of the results is implied or intended. Should you have any questions regarding this report, please call.

Respectfully,

  
Richard J. Campbell, PE  
Chemical Engineer  
Senior Environmental Consultant

c: Mr. Bob Hinkson  
Mr. Jason Gunter  
Mr. Ty Morris

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# ***Ambient Air Monitoring Report***

***Federal Mine Tailings Site  
Park Hills, Missouri***

***The Doe Run Company***

***Third Quarter 2013***



# RECEIVED

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## SUPERFUND DIVISION

### ***Ambient Air Monitoring Report***

***Federal Mine Tailings Site  
Park Hills, Missouri***

***The Doe Run Company***

***Third Quarter 2013***



1001 Diamond Ridge Suite 1100  
Jefferson City, MO 65109  
Phone: (573) 638-5000  
Fax: (573) 638-5001



## GLOSSARY OF TERMS

$\mu\text{g}/\text{m}^3$	Micrograms per Cubic Meter
TSP	Total Suspended Particulate
PM <sub>10</sub>	Particulate Matter - 10 Microns or Less
mmHg	Millimeters of Mercury

## NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

PM <sub>10</sub> – Particulate Matter	24-Hour*	Annual Maximum	150 $\mu\text{g}/\text{m}^3$
Lead	Calendar Quarter	Arithmetic Mean	1.5 $\mu\text{g}/\text{m}^3$

TSP (Total Suspended Particulate) – There are no Federal Standards that apply solely for TSP.

\*This standard must be exceeded more than once a year to constitute a violation.

## QUARTERLY MISSING DATA SUMMARY

### TSP/Lead Summary

All Sites – 7/4-7/5/2013 – Holiday – No Samples Scheduled  
Federal Site #4 St. Joe Park – 7/3/2013 - INVALID – Mechanical Failure  
Federal Site #4 St. Joe Park - 7/16/2013 – Blank Filter QA  
Federal Site #2 Big River #4 - 7/29/2013 - INVALID – Sample Run Time Short  
Federal Site #1 Water Treatment Plant – 8/20/2013 - INVALID – Mechanical Failure  
All Sites – 9/2/2013 – Holiday – No Samples Scheduled  
Federal Site #2 Big River #4 - 9/16/2013 – Blank Filter QA  
Big River Site #4 QA - 9/16/2013 – Blank Filter QA  
Federal Site #2 Big River #4 - 9/18/2013 - INVALID – Mechanical Failure  
Federal Site #2 Big River #4 - 9/20/2013 - INVALID – Timer Failure

### PM<sub>10</sub> Summary

All Sites – 7/6/2013 – Holiday – No Samples Scheduled  
Federal Site #4 St. Joe Park - 7/21/2013 – Blank Filter QA  
Federal Site #2 Big River #4 - 9/16/2013 – Blank Filter QA

***Particulate and Lead Quarterly Summary***



## TSP and Lead Concentration Summary

Federal  
Park Hills, Missouri

2013

Date	TSP #1 - Water Plant (µg/m <sup>3</sup> )	TSP #2 - Big River #4 (µg/m <sup>3</sup> )	TSP #4 - St. Joe Park (µg/m <sup>3</sup> )	LEAD #1 - Water Plant (µg/m <sup>3</sup> )	LEAD #2 - Big River #4 (µg/m <sup>3</sup> )	LEAD #4 - St. Joe Park (µg/m <sup>3</sup> )
7/1/13	34	46	41	0.012	0.026	0.015
7/2/13	18	17	37	0.000	0.000	0.006
7/3/13	26	28	INVALID	0.012	0.010	INVALID
7/8/13	22	24	48	0.016	0.019	0.079
7/9/13	28	29	49	0.022	0.021	0.060
7/10/13	23	24	27	0.013	0.063	0.014
7/11/13	35	32	37	0.015	0.007	0.011
7/12/13	23	25	28	0.013	0.010	0.008
7/15/13	18	20	34	0.010	0.020	0.007
7/16/13	21	31	26	0.021	0.042	0.014
7/17/13	25	33	31	0.033	0.026	0.033
7/18/13	27	29	38	0.039	0.017	0.055
7/19/13	22	25	28	0.008	0.013	0.014
7/22/13	24	24	22	0.096	0.056	0.073
7/23/13	25	46	40	0.016	0.083	0.077
7/24/13	28	33	26	0.024	0.014	0.008
7/25/13	32	41	34	0.016	0.055	0.031
7/26/13	15	15	17	0.010	0.000	0.013
7/29/13	23	INVALID	34	0.022	INVALID	0.080
7/30/13	13	9	14	0.000	0.000	0.000
7/31/13	17	19	20	0.013	0.015	0.000
<hr/>						
Monthly Average	24	28	32	0.020	0.025	0.030
				QUARTERLY LEAD NAAQS LIMIT: 1.5 µg/m <sup>3</sup>		

Please see the particulate analysis sheets for explanations of missing or invalid data.



## TSP and Lead Concentration Summary

Federal  
Park Hills, Missouri

2013

Date	TSP #1 - Water Plant (µg/m <sup>3</sup> )	TSP #2 - Big River #4 (µg/m <sup>3</sup> )	TSP #4 - St. Joe Park (µg/m <sup>3</sup> )	LEAD #1 - Water Plant (µg/m <sup>3</sup> )	LEAD #2 - Big River #4 (µg/m <sup>3</sup> )	LEAD #4 - St. Joe Park (µg/m <sup>3</sup> )	
8/1/13	25	31	26	0.017	0.068	0.010	
8/2/13	24	31	36	0.008	0.007	0.041	
8/5/13	13	13	16	0.000	0.000	0.007	
8/6/13	9	8	12	0.000	0.000	0.007	
8/7/13	20	13	13	0.026	0.016	0.011	
8/8/13	23	26	23	0.019	0.019	0.027	
8/9/13	23	31	22	0.006	0.006	0.007	
8/12/13	21	20	24	0.024	0.013	0.018	
8/13/13	24	40	28	0.012	0.015	0.015	
8/14/13	17	19	14	0.026	0.010	0.011	
8/15/13	23	34	22	0.024	0.016	0.025	
8/16/13	34	46	37	0.013	0.023	0.011	
8/19/13	30	33	27	0.022	0.023	0.010	
8/20/13	INVALID	23	24	INVALID	0.009	0.013	
8/21/13	23	28	29	0.014	0.026	0.030	
8/22/13	41	45	32	0.052	0.026	0.016	
8/23/13	41	53	44	0.015	0.015	0.010	
8/26/13	26	27	32	0.011	0.018	0.020	
8/27/13	34	34	42	0.061	0.027	0.068	
8/28/13	54	46	49	0.094	0.043	0.079	
8/29/13	36	37	38	0.019	0.020	0.028	
8/30/13	38	46	43	0.019	0.021	0.017	
Monthly Average	27	31	29	0.023	0.019	0.022	
				QUARTERLY LEAD NAAQS LIMIT: 1.5 µg/m <sup>3</sup>			

Please see the particulate analysis sheets for explanations of missing or invalid data.



## TSP and Lead Concentration Summary

Federal  
Park Hills, Missouri

2013

Date	TSP #1 - Water Plant (µg/m <sup>3</sup> )	TSP #2 - Big River #4 (µg/m <sup>3</sup> )	TSP #4 - St. Joe Park (µg/m <sup>3</sup> )	LEAD #1 - Water Plant (µg/m <sup>3</sup> )	LEAD #2 - Big River #4 (µg/m <sup>3</sup> )	LEAD #4 - St. Joe Park (µg/m <sup>3</sup> )
9/3/13	22	33	44	0.035	0.026	0.065
9/4/13	31	47	31	0.053	0.030	0.040
9/5/13	34	39	45	0.071	0.039	0.103
9/6/13	28	32	35	0.011	0.023	0.019
9/9/13	38	39	45	0.055	0.035	0.045
9/10/13	41	45	58	0.032	0.043	0.097
9/11/13	46	53	51	0.049	0.052	0.053
9/12/13	28	38	57	0.020	0.031	0.026
9/13/13	31	32	27	0.015	0.014	0.019
9/16/13	25	28	26	0.007	0.007	0.009
9/17/13	23	17	26	0.000	0.000	0.007
9/18/13	37	INVALID	38	0.000	INVALID	0.011
9/19/13	33	32	45	0.009	0.000	0.031
9/20/13	14	INVALID	16	0.000	INVALID	0.000
9/23/13	13	23	19	0.007	0.014	0.011
9/24/13	18	20	22	0.000	0.000	0.022
9/25/13	19	24	21	0.008	0.011	0.014
9/26/13	26	27	25	0.006	0.008	0.014
9/27/13	24	25	31	0.008	0.008	0.024
9/30/13	8	12	19	0.000	0.064	0.028
Monthly Average	27	31	34	0.019	0.022	0.032
Quarterly Average	26	30	31	0.021	0.022	0.028
QUARTERLY LEAD NAAQS LIMIT: 1.5 µg/m <sup>3</sup>						

Please see the particulate analysis sheets for explanations of missing or invalid data.

***PM<sub>10</sub> Quarterly Summary***



## Particulate Summary

### Federal Park Hills, Missouri

2013

Date	PM <sub>10</sub> #1 - Water Plant (µg/m <sup>3</sup> )	PM <sub>10</sub> #2 - Big River #4 (µg/m <sup>3</sup> )	PM <sub>10</sub> #4 - St. Joe Park (µg/m <sup>3</sup> )	PM <sub>10</sub> NAAQS (µg/m <sup>3</sup> )
3-Jul	17	17	21	150
9-Jul	14	17	21	150
12-Jul	15	16	17	150
15-Jul	11	15	15	150
18-Jul	14	16	19	150
21-Jul	9	10	10	150
24-Jul	11	14	14	150
27-Jul	43	8	11	150
30-Jul	7	10	10	150
Monthly Average	16	14	15	

Please see the particulate analysis sheets for explanations of missing or invalid data.



## Particulate Summary

### Federal Park Hills, Missouri

2013

Date	PM <sub>10</sub> #1 - Water Plant (µg/m <sup>3</sup> )	PM <sub>10</sub> #2 - Big River #4 (µg/m <sup>3</sup> )	PM <sub>10</sub> #4 - St. Joe Park (µg/m <sup>3</sup> )	PM <sub>10</sub> NAAQS (µg/m <sup>3</sup> )
2-Aug	15	18	20	150
5-Aug	9	9	9	150
8-Aug	13	12	13	150
11-Aug	25	22	21	150
14-Aug	13	12	10	150
17-Aug	22	21	21	150
20-Aug	22	21	18	150
23-Aug	32	33	28	150
26-Aug	25	21	22	150
29-Aug	33	21	22	150
Monthly Average	21	19	18	

Please see the particulate analysis sheets for explanations of missing or invalid data.



## Particulate Summary

### Federal Park Hills, Missouri

2013

Date	PM <sub>10</sub> #1 - Water Plant (µg/m <sup>3</sup> )	PM <sub>10</sub> #2 - Big River #4 (µg/m <sup>3</sup> )	PM <sub>10</sub> #4 - St. Joe Park (µg/m <sup>3</sup> )	PM <sub>10</sub> NAAQS (µg/m <sup>3</sup> )
1-Sep	16	15	19	150
4-Sep	20	22	19	150
7-Sep	22	22	24	150
10-Sep	26	24	29	150
13-Sep	20	17	20	150
16-Sep	18	19	18	150
19-Sep	32	29	32	150
22-Sep	9	8	9	150
25-Sep	14	15	11	150
28-Sep	25	23	28	150
Monthly Average	20	19	21	
Quarterly Average	19	17	18	

Please see the particulate analysis sheets for explanations of missing or invalid data.

***Quarterly Quality Control***



120 East Davis Street  
P.O. Box 30  
Fayette, MO 65248-0030

Phone: (660) 248-1911  
Fax: (660) 248-1921  
<http://www.inovatia.com>

## ANALYSIS REPORT

### Client Information:

Barr Engineering  
5150 W. 76th Street  
Edina, MN 55439

**Project Name:** Quarterly QC Samples  
**Quarter-Year:** Q3-2013  
**Sample Matrix:** Filter

**Analysis Method:** 40 CFR §58 Appendix A/40 CFR §50 Appendix G

Lab Number	Observed Value	Actual Value	Difference (+/-)	Difference (%)	% Difference	Average (%)	Standard Deviation	95% Probability	95% Probability	Analyst-Date
	(µg Pb/Filter)	(µg Pb/Filter)			Average (%)			Limit (+)	Limit (-)	
20A	19.173	20	-0.827	-4.135%						DS-07/01/13
20B	20.304	20	0.304	1.520%						DS-08/05/13
20C	20.638	20	0.638	3.190%	0.192%	3.839%	7.716%	-7.333%		DS-09/05/13
60A	59.194	60	-0.806	-1.343%						DS-07/01/13
60B	60.040	60	0.040	0.067%						DS-08/05/13
60C	62.794	60	2.794	4.657%	1.127%	3.137%	7.276%	-5.022%		DS-09/05/13

Submitted by:

Jennifer Vandelicht  
Quality Assurance

Digitally signed by Jennifer Vandelicht  
DN: cn=Jennifer Vandelicht,  
o=Inovatia Laboratories, LLC,  
ou=Quality Assurance,  
email=jvandelicht@inovatia.com,  
c=US  
Date: 2013.09.18 09:53:42 -05'00'

09/18/2013

Date

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